PDD for: Graphical Severe Weather Warnings

Initiated by: WFO Fort Worth, TX

Date: April 28, 2004

I. Mission Connection

Description: The Graphical Severe Weather Warning (GSWW) combines the polygon generated by WARNGEN for a TOR or SVR issuance with a current radar reflectivity image, high-detail GIS map backgrounds showing roads, cities, and terrain, and a summary of demographic information for the population at risk. The GSWW also contains the text of the warning and any subsequent SVSs issued for that warning.

Demographic information from the 2000 Census includes 1) the total population inside the warning polygon (population at risk), 2) a breakdown by age and sex, 3) the percentage of the population at risk living in single family homes, apartments or townhomes, and mobile homes, 4) the percentage of the population at risk that, by their own assessment, speak English well or not at all, 5) a breakdown of the population at risk by rural or urban location, and 6) the percentage of the population at risk that was living outside of Texas in 1995 (and who may be less familiar with Texas weather). Many other types of demographic information could be displayed, and this will be a focus of feedback.

Purpose and Intended Use: The GSWW is designed for local decision makers and the general public. The graphical depiction of a severe weather warning is expected to allow local emergency officials and spotter groups to better visualize the location and movement of a severe storm, and to quickly assess the potential impact in a given area. Presentation of selected demographic information is expected to provide WFO staff with a clearer picture of the population at risk so that follow up statements can emphasize the appropriate call to action (for example, a large percentage of children at home or a high rate of manufactured housing occupants). Local emergency responders can use the information to anticipate details of a response should the storm result in damage.

Audience: Local spotter groups, emergency managers, elected officials, print and broadcast media, and the general public

Presentation format: The GSWW will be available via the WFO Fort Worth homepage. A CWA map with current radar reflectivity will be available whenever warnings are in effect for the WFO FWD CWA. Figure 1 shows this display. When a warning is in effect, the warning polygon will be displayed on the CWA map with a color code depending on warning type (red for TOR, yellow for SVR, and green for FFW). Clicking on a warning polygon will result in the display of the detailed graphical severe weather warning. An example of a GSWW is shown in figure 2. Also, attachment one shows a GSSW for a flash flood warning printed in its entirety.

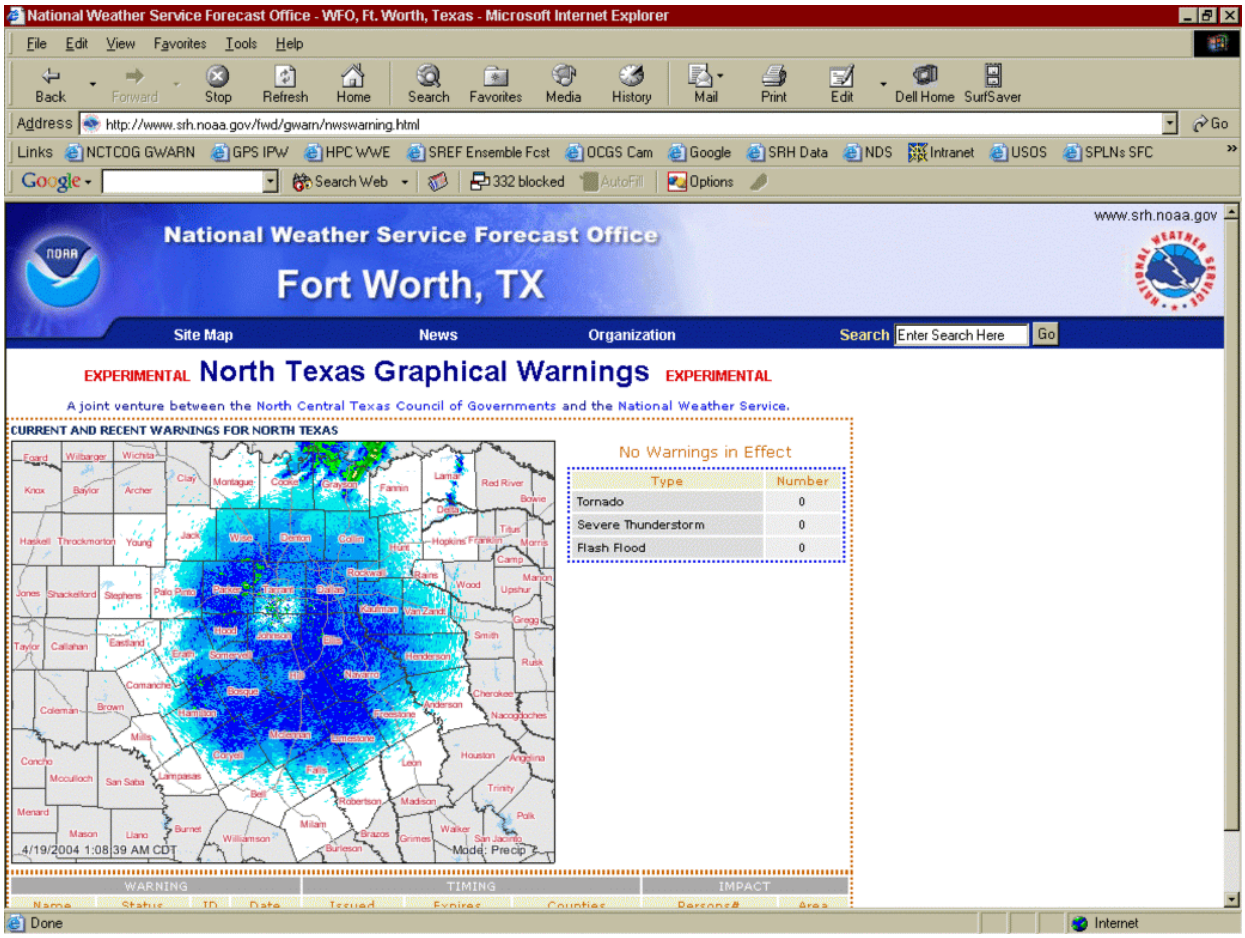

Figure 1: Graphical Severe Weather Warning overview page showing current radar reflectivity data. Warning polygons will be displayed on this map.

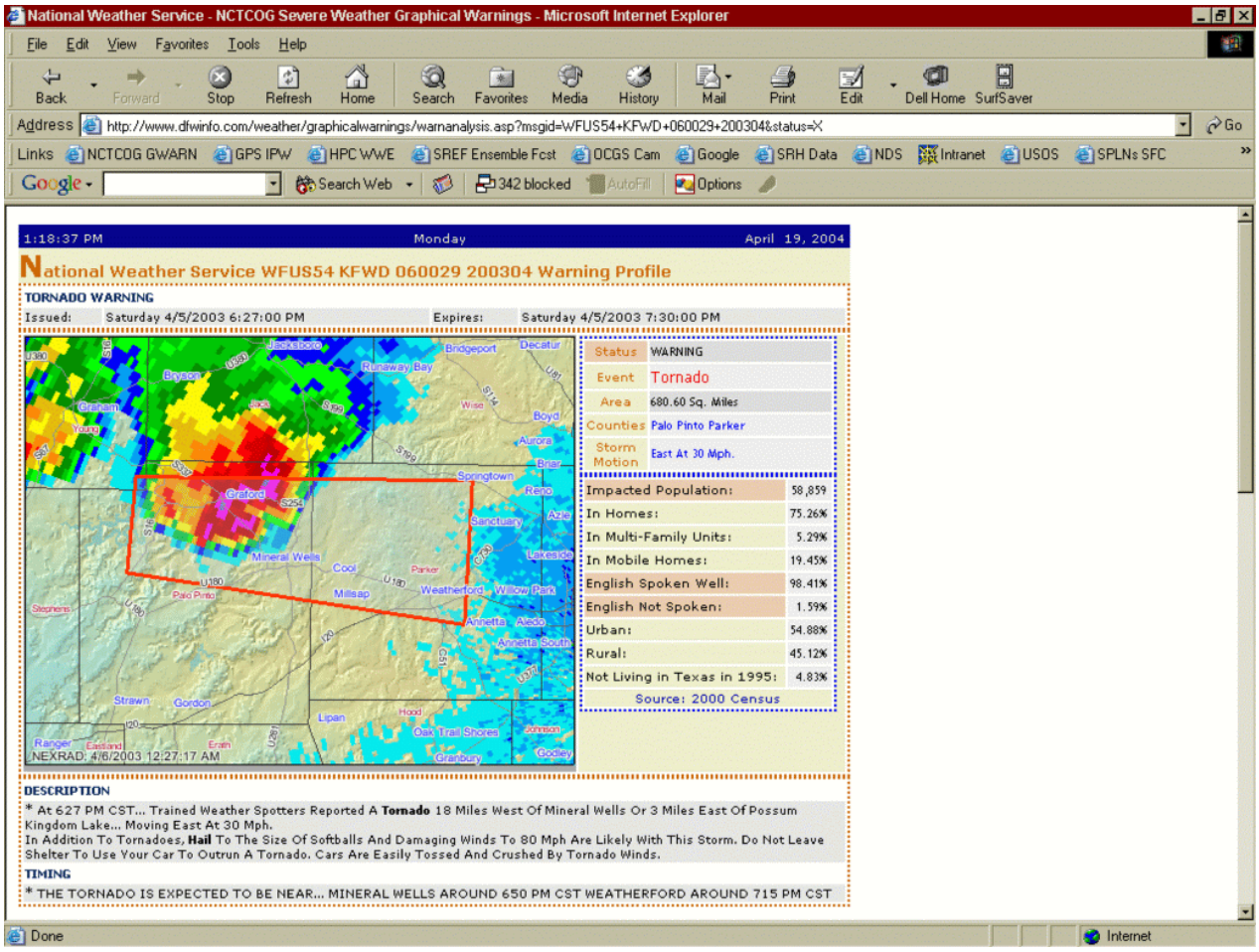

Figure 2: Graphical Severe Weather Warning for a Tornado Warning for Palo Pinto and Parker Counties in North Texas.

Feedback Method: Feedback on the GSWW will be received through the WFO's webmaster email, the ongoing web survey link, and through meetings with local emergency managers. Primary types of feedback that will be solicited include 1) whether the GSWW does provide an enhanced assessment of the threat including area affected and population at risk, 2) what changes, if any, should be made to the graphics (fonts, colors, etc.), 3) what changes should be made to the demographic information that is displayed, and 4) what additional functionality would be helpful (animation, zooming, selected overlays, etc.)

Comments may also be provided to:
NWS Ft. Worth Weather Forecast Office
3401 Northern Cross Blvd.
Ft. Worth, TX 76137
Attn: Bill Bunting
William.Bunting@noaa.gov

Experimental Feedback Period: May 1 through November 30, 2004.

II. Technical Information

Format and Science Basis: The GSWW format displays a combination of graphical and text-based information on a single web page.

Availability: The GSWW is available to anyone with an Internet connection. This product can be found at: http://www.srh.noaa.gov/fwd/gwarn/nwswarning.html

Additional Details: The GSWW is the result of a collaboration between WFO Fort Worth (Lance Bucklew and Bill Bunting), Southern Region Headquarters (Paul Kirkwood), and the North Central Texas Council of Governments (Scott Rae).

Future work on the GSWW will include the addition of animation to the radar images, plotting of local storm reports, and providing capability for local emergency managers to overlay GIS data of interest (e.g., location of stored hazardous materials). Eventually, it is hoped that WFO staff will have access to the demographic information before the warning is issued so that call to action statements can be tailored to the population that will be affected.